416/5

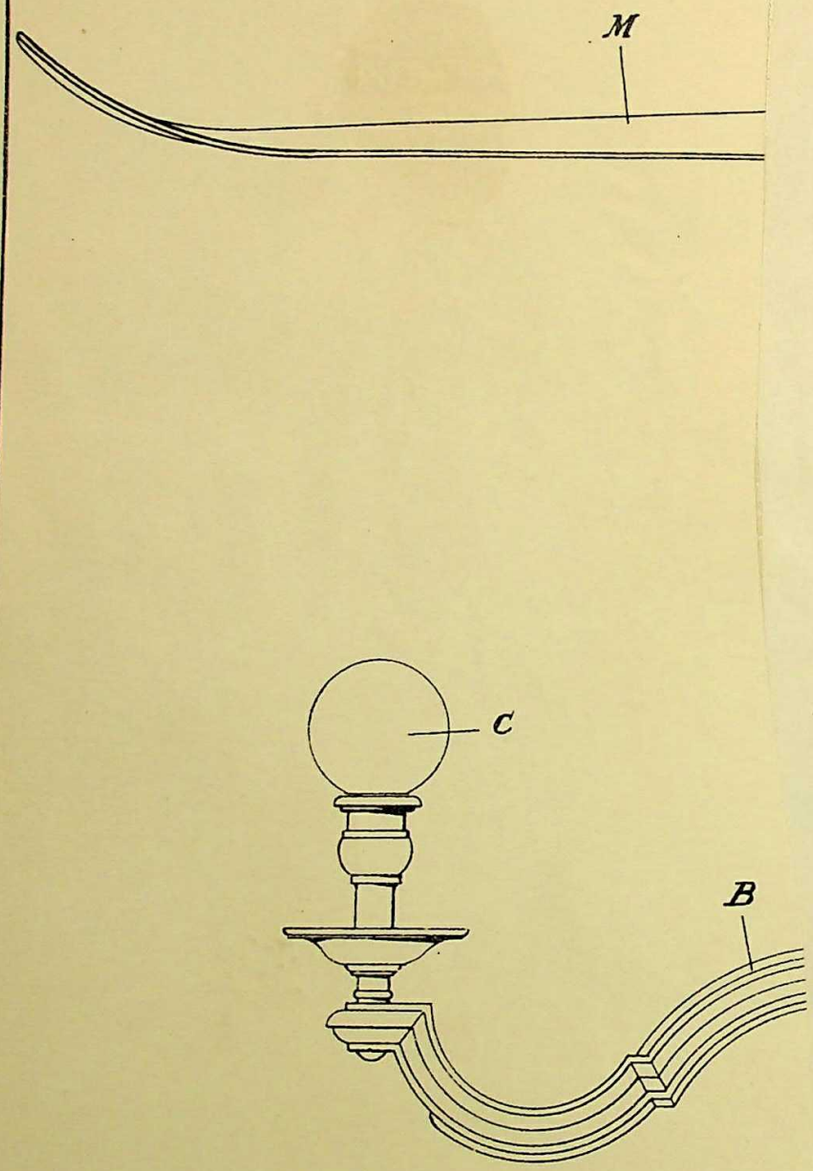
416/5

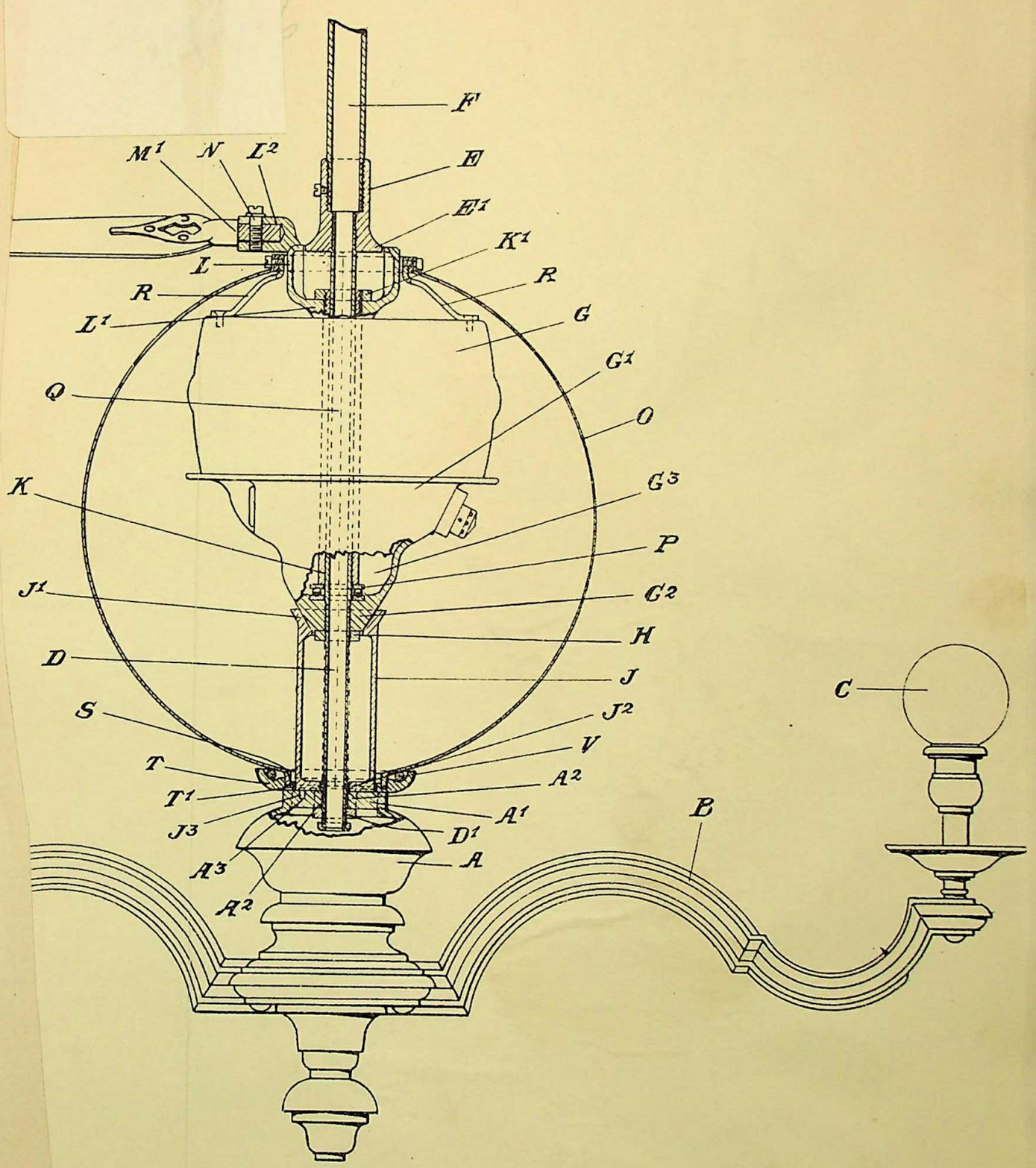
British #284,510

284,510

284,510 COMPLETE SPECIFICATION

1 SHEET





Charles & Read Ltd Photo-Litho

240/2

PATENT SPECIFICATION

284,510

Application Date : May 3, 1927. No. 11,785/27.

Complete Accepted : Feb. 2, 1928.

COMPLETE SPECIFICATION.

A Composite Device or Fixture for Lighting and Air Circulating Purposes.

I, EDMUND PERCY STANLEY CATTLE, of 21, Orchard Street, Portman Square, London, W. 1, a British subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

This invention relates to improvements in fixtures for illuminating and air circulating purposes.

It has previously been proposed to mount a fan and its motor on the pendant of an electric light fitting, above the lamps.

According to my invention I provide a lighting fitting of pendant form having radiating arms adapted to carry burners, incandescent electric lamps or other known means of illumination and having coaxially arranged therewith an impeller or fan. The said fan is adapted to be positively driven by a suitable power unit such as, for example, an electric motor, compressed air motor or the like, rigidly secured to the said fitting above the radiating arms and enclosed within a casing of suitably decorative design; the whole being substantially arranged to form one complete unit.

In order that my invention may be completely understood reference should be made to the appended sheet of drawings which shows in part sectional elevation one method of carrying my invention into effect.

With reference to the drawing, A is the hollow base of the fixture or fitting to which are suitably secured, in known manner, radiating arms B, each carrying at its outer extremity an incandescent electric lamp C and adapted to be bored in such manner as to admit of the passage of the electrical leads (not shown) to the said lamps C.

The upper portion of the said base A is provided with a bridge-piece A1 integrally formed with a centrally arranged boss A2 into which is screwed the lower end of a hollow cylindrical tube D, which is secured in position by means of a suitably locked nut D1. The upper end of the cylindrical tube D is screwed into a union piece E secured to the lower extremity of a downwardly depending supporting tube F, the upper portion of which is secured in normal manner to a swivelling shackle and ceiling plate (not shown) for the purpose of supporting the said fixture.

Axially disposed and surrounding the said tube D is an electric fan motor G, the fixed outer casing G1 of which has integrally formed therewith at its lower end a truncated conical boss G2 through which the said tube D is adapted to be screwed and rigidly secured thereto by means of a locking nut H. The lower outer face of the boss G2 is designed to contact accurately with an inner conical face formed at the upper end J1 of a cylindrical distance piece J. The lower end of the said distance piece J is provided with a flange J2 adapted to encompass the tube D and abut against the upper face of the bridge-piece A1 and provided with a peg or stud J3 so arranged as to engage a hole A3 in the said bridge-piece A1 and prevent the rotation of the said distance piece J. By this arrangement the said motor G is rigidly held in true axial alignment and thus whip and lateral vibration arising from the rotation of the said motor will, to a great extent, be eliminated. Rotatably mounted upon the said tube D within the motor G is a sleeve K adapted to carry the rotor or armature (not shown) of the said motor in a known manner. The upper end of the sleeve K is screwed into a boss L1 integrally formed with a hub member L and locked in position by the nut K1. The upper portion of the said hub member L surrounds the lower lip or flange E1 of the union piece E and has integrally formed therewith a number of radially disposed and suitably bored bosses L2 (of which only one is shown) into which the spigot or stub ends M1 of the fan blades M are designed to fit. The studs N serve to secure the said stub ends M1 to the said bosses L2. In order to take the weight and axial thrust of the rotating parts of the said motor G and the fan M a thrust ball bearing P is provided between the lower extremity of the sleeve

[Price 1/-]

K and the fixed boss G2. Within the lower portion of the casing G1 adjacent to the boss G2 is provided a well G3 for lubricating oil, the said oil being conducted upwardly for the purpose of lubricating the inner bearing surface of the sleeve K by means of a shallow spiral groove (not shown) cut in the outer wall of the fixed inner tube D.

Surrounding and enclosing the motor G is a casing O of spherical or other suitable form, vertically split on the line Q to facilitate construction and examination and secured to the outer casing G1 of the fan motor G by straps or brackets R. The lower portion of the said casing O is provided with a downwardly depending tapered lip S adapted to engage and be held in a similarly tapered recess T1 formed in a saucer like fixed collar T. Near the periphery of the said collar T is provided a ring V preferably made of resilient material such as, for example, asbestos string, on which the spherical casing O abuts. The electric leads (not shown) may be led through the hollow bores of the tubes F and D to the fan motor G and the lamps C in the usual known manner. Although the fixture described herein and shown in the drawing has particular reference to the employment of electical energy, it will be understood that my invention is equally applicable for use with any other known means of lighting and of providing motive power for the air circulating fan.

Having now particularly described and ascertained the nature of m invention and in what manner th is to be performed, I declare tha I claim is :—

1. A lighting and air circulating comprising the combination of a l fitting of pendant form having at i a plurality of radiating arms carry lights, a power unit axially ar above the said arms and totally e within a casing, and an air circu fan positively driven by the said unit substantially as and for the p described.

2. In a combined lighting and culating fixture as claimed in Clai provision of means for rigidly mo the said power unit substantially for the purpose described.

3. In a combined lighting a circulating fixture as claimed in t ceding claims the provision of whereby the casing adapted to su and completely enclose the power the air circulating fan, may be detachable, substantially as describ

4. In a combined lighting ar circulating fixture as claimed in th ceding claims the provision of mea lubricating the rotating parts of t power unit substantially as descr

5. A combined lighting and air lating device or fixture substantia described with reference to the a panying drawing.

Dated this 3rd day of May, 1927

E. P. S. CATT